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DRAFT REPORT
LAND DISPOSAL RESTRICTION INSPECTION
PROVIDENCE CHEMICAL DIVISION
WHITTAKER CORPORATION

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	:	503
EPA Region	:	I
Site No.	:	RID093214641
Contract No.	:	68-01-7331
CDM Federal Programs Corporation Document No.	:	T503-R01-DR-BZWE-1
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Date Prepared	:	May 27, 1988

CDM Federal Programs Corporation

May 27, 1988

Rose Harvell
Project Officer
U.S. Environmental Protection Agency
401 M Street, Room 2834
Washington, D.C. 20460

PROJECT: EPA CONTRACT NO.: 68-01-7331

DOCUMENT NO.: T503-R01-EP-BZWD-1

SUBJECT: Draft Report for Work Assignment 503
Land Disposal Restriction Inspection
Providence Chemical Division
Whittaker Corporation
Document No.: T503-R01-DR-BZWE-1

Dear Ms. Harvell:

Please find enclosed the draft report entitled, "Land Disposal Restriction Inspection, Providence Chemical Division, Whittaker Corporation,"as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact Paige Embry of CDM Federal Programs Corporation at (617) 742-2659 within two weeks of receipt of this letter.

Sincerely,

CDM Federal Programs Corporation

John Walker
TES III Regional Manager

PE:rf

Enclosure

cc: Geralyn Falco, EPA Primary Contact, RCRA Region I
Kathy Castagna, EPA Regional Contact, RCRA Region I
Lee Whitehurst, EPA HQ Coordinator, RCRA Region I
Harry Butler, CDM Federal Programs Corporation Deputy Program Manager
Michael P. Riley (letter only)

TAFØ - 4

Table of Contents

1.0 SCOPE OF WORK

CDM Federal Programs Corporation (CDM FPC) received Work Assignment No. 503 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-01-7331 (TES III) to conduct Land Disposal Restriction (LDR) inspections at 27 RCRA facilities in EPA Region I including the Providence Chemical Division of Whittaker Corporation (Whittaker Corp.) in East Providence, Rhode Island.

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA). mandates that EPA must follow a strict schedule when evaluating hazardous wastes to determine which wastes should not be land disposed. Wastes cannot be land disposed unless they are below specified concentrations or meet certain treatment standards. On November 7, 1986, EPA published the first phase of the LDR in the Federal Register (51 FR 40572) restricting land disposal of F001 to F005 solvent wastes and dioxins. However, restriction of land disposal of dioxins was delayed until November 8, 1988 due to a lack of treatment capacity. On July 8, 1987 the California List wastes (cyanides, PCBs, certain metals above specified concentrations in liquid hazardous wastes, liquid wastes with halogenated organic carbon concentrations between 1000 mg/l and 10,000 mg/l and wastes with a pH of less than two) were added to the restricted wastes. Other wastes will be added to the restricted list at certain specified intervals.

PRC Environmental Management, Inc., a TES III team member, will conduct 18 of the 27 LDR inspections. CDM FPC will conduct the remaining nine inspections. On April 29, 1988 CDM FPC inspected the Whittaker Corp. facility; Paige Embry performed the inspection accompanied by Michael Kulbersh of CDM FPC and Geralyn Falco of the EPA.

1.1 Facility Description

The Whittaker Corp. facility is located within the city limits of East Providence, Rhode Island. The mailing address, facility contact, responsible individual and EPA identification number follow:

Mailing Address:	Providence Chemicals Division, Whittaker Corp. King Philip Road East Providence, Rhode Island 02916-0698
Facility Contact:	Matthew Waite, Business Manager (401) 434-1770
Responsible Official:	Richard C. Knipp, Vice President-Operations King Philip Road East Providence, Rhode Island 02916-0698 (401) 434-1770
EPA ID No:	RID093214641

1.2 Inspection Procedures

1.2.1 Pre-Inspection

Before inspecting the Whittaker Corp. facility, CDM FPC personnel reviewed documents pertinent to the inspection. These documents were obtained from the EPA Region I office in Boston, Massachusetts and the Rhode Island Department of Environmental Management (RIDEM) located in Providence, Rhode Island. The documents reviewed include the following:

- hazardous waste notification form (August 15, 1980),
- hazardous waste permit application (March 9, 1982),
- closure plan for the storage facility (March 18, 1985),
- EPA preliminary assessment (November 27, 1985),
- biennial hazardous waste report for 1985 (March 3, 1986),
- initial screen (May, 1986),
- RCRA technical assistance inspection report (June 10, 1985) and
- RCRA correspondence.

1.2.2 On-site Inspection

On April 29, 1988 the CDM FPC inspectors and the EPA compliance officer from EPA Region I inspected the Providence Chemicals Division of the Whittaker Corporation. Listed below are the names, affiliations and phone numbers of those in attendance.

Geralyn Falco	EPA Region I Compliance Officer	(617) 593-5778
Paige Embry	CDM FPC Inspector	(617) 742-2659
Michael Kulbersh	CDM FPC Inspector	(617) 742-2659
Matthew Waite	Whittaker Corp. Business Manager	(401) 434-1770

Richard C. Knipp, Vice President - Operations, joined the inspection team for the plant tour.

According to Mr. Waite's description of facility operations and waste streams, Whittaker Corp. generates hazardous waste but no longer generates F-solvent waste or California List waste. CDM FPC completed the generator and California List checklists (included as Appendix A). CDM FPC also reviewed all hazardous waste manifests prepared since the Land Disposal Restrictions came into effect and inspected the drum storage area.

2.0 INSPECTION FINDINGS

2.1 Permit Status

The facility submitted a notification of hazardous waste activity on August 1, 1980 indicating that they generated and stored hazardous waste.

Whittaker Corp. submitted the closure plan for its storage operation on March 22, 1985. The plan was approved on April 17, 1985 and certified closed on May 9, 1986. The facility is presently a generator of hazardous waste.

2.2 Facility Operations and Waste Management

Whittaker Corp. makes a dispersion of polyvinyl chloride (PVC) in a plasticizer base by mixing PVC powder in a liquid plasticizer. Customers heat the liquid which converts it into a tough, flexible coating. It is used industrially for tool handles, etc. The company also has a section that manufactures gaskets for food product lids.

The 1985 biennial hazardous waste report for 1985 (for the calendar year ending December 31, 1985) indicates that Whittaker Corp. sent 6674 gallons of combustible liquid waste, N.O.S. (EPA hazardous waste no. D001) to Solvent Recovery Service of N.E. (EPA ID No. CTD009717604) for recovery and return of the recovered material.

Prior to closure, the primary waste streams generated at the facility were the following:

- spent xylene, toluene, acetone or methyl ethyl ketone (MEK) from washing laboratory equipment;
- solvent cleaning waste (Shell Cyclo Sol 53) which is predominantly cyclooctane, cyclononane and cyclodecane and may contain PVC resin, polyols, carbonates, plasticizers, barium sulfate or trace amounts of lead, cadmium, chromium or mercury;
- empty metal drums which were declared hazardous because they once contained a 21% solution of di(phenylmercuric) dodecenyl succinate;
- vinyl powder containing insecticide residues which is generated during the air treatment of stack emissions. The insecticides do not have specific EPA I.D. numbers but are "Naled" (1,2 dibromo-2,2 dichloroethylmethyl phosphate) and "Sendren" (2-[1-methylepoxy-] phenylmethyl carbamate).

2.2.1 Interviews

The inspector briefly described the purpose of the inspection and interviewed Mr. Waite about facility operations and procedures for handling F-solvent and California List waste.

Mr. Waite described the products that Whittaker Corp. manufactures. Since closure the waste streams generated by the facility have changed from those discussed above. Approximately 18 drums of Solvesso 100, which is equivalent to the Cyclo Sol 53 discussed above, are shipped three times a year. Mr. Waite indicated that the company does, on occasion, generate more than 1,000 kg/month and therefore, does not fall in the small quantity generator category. This solvent is used to clean the mixers each time a color change is noted. The solvent is changed approximately every month to six weeks and the barrels are immediately removed to the drum storage area.

The methyl ethyl ketone, acetone, toluene and xylene wastes generated in the laboratory prior to closure have been replaced by the same solvent, Solvesso 100, which is used to clean the mixers.

Whittaker Corp. still manufactures a dry blend PVC for one customer which contains the pesticides, "Naled" and "Sendren". According to Mr. Waite, the vinyl powder waste generated during this process is collected under a Rhode Island exemption for small quantity generators. A full barrel of waste has not been generated since closure in 1986.

Mercury is used as a catalyst in the generation of polyurethane. Whittaker Corp. utilized the mercury compound in making polyurethane used for sports flooring and automotive gaskets. Formerly, the empty barrels which had contained the mercury compound were treated as a hazardous waste because they once contained mercury. Mr. Waite indicated that these barrels are no longer considered hazardous waste because they receive four rinses. Two rinses with polyol removes about 99.9 % of the mercury. This polyol is used in the finished product. The barrels are rinsed two additional times with the solvent used to clean the mixers.

2.2.2 On-site record review

CDM FPC reviewed the waste manifests prepared since the LDR came into effect as well as the waste analyses. The storage facility was closed and the generation of the F003 (acetone, xylene) and F005 (MEK) hazardous wastes stopped before the LDR rules came into effect.

The manifests indicted that all wastes shipped out was D001, designated waste combustible liquid, N.O.S. The estimated composition listed was 30 wt. % petroleum distillate (Solvesso 100), 24 wt. % plasticizer and 46 wt. % solids. Wastes were shipped to Solvent Recovery Service of N.E. (EPA ID No. CTD 009717604).

Whittaker Corporation's laboratory in California analyzed a conglomeration of the waste solvent in 1981 and 1982. Analyses of four batches of spent wash solvent on June 22, 1981 found from 2.7 ppm to 15.5 ppm lead, cadmium from not detectable to 0.30 ppm cadmium, chromium from not detectable to 24 ppm and mercury at 24 ppm, 40 ppm, 51 ppm and 144 ppm. The June 14, 1982 analysis found up to 40 ppm cadmium, up to 180 ppm chromium, up to 3750 ppm lead and up to 26 ppm mercury.

Since November of 1986 Whittaker Corp. has been supplying a notification form with its manifest indicating that it had no LDR waste. The blank form was supplied by Solvent Recovery Service of N.E.

2.3 OBSERVATIONS

During the plant walk-through CDM FPC screened with an HNu-101 for volatile organic vapors; the ambient background reading was 1 ppm. This number was not exceeded during the facility tour.

The hazardous waste storage area is in the same area that product is stored. The storage area is bermed; Mr. Waite said that it had been leak tested.

There were nine full drums in the storage area, all labeled D001, all dated, none exceeded the 90 day limit. One partially full drum was located in the bermed area and was dated March 15, 1986 it was labeled hazardous waste, N.O.S. Mr. Waite informed the inspectors that it contained the powder blend with the insecticides. Mr. Waite said that it should not be located in the bermed area and directed that it be returned to its satellite area. Under a Rhode Island exemption for small quantity generators, the drum is supposed to be kept in a satellite storage area.

One drum had plasticizer floating on top of the lid. All of the drums appeared to be in good shape. There is no satellite storage are for the solvent; it is kept in the machinery until dirty then is removed, drummed and brought to the storage area.

3.0 COMPLIANCE EVALUATION

Although it appeared during the inspection that Whittaker Corp. did not generate any hazardous wastes regulated by the LDR rules, review of the information obtained indicates that Whittaker Corp. may be generating California List waste. This conclusion is uncertain because the last waste analysis occurred in 1982.

During the inspection CDM FPC asked Mr. Waite about the mercury concentrations noted in the 1981 waste analyses (24 ppm, 40 ppm, 51 ppm, 144 ppm) because they appeared to exceed the California List waste concentration of 20 mg/l.

Mr. Waite indicated that the analyses were in ppm and a conversion to mg/l was required; one must then take the density of the mercury into account and this would lower the mercury concentration to below the specified level. However, it is not the density of the element that needs to be taken into account but the density of the solution, which is approximately 1.0; therefore, the concentrations do not change, only the units.

Mr. Waite indicated in a telephone conversation on May 25, 1988 that the 1982 analyses are more applicable to the composition expected in the waste solvent today because Whittaker Corp. now only makes polyurethane for automotive gaskets, not sports flooring. Therefore, the quantity of polyurethane presently generated, and mercury compound utilized, is considerably less than in 1981.

The 1982 analyses exceeded the California List concentrations for mercury (20 mg/l) and lead (500 mg/l). The concentrations found in the 1982 analyses were 26 ppm mercury and 3750 ppm lead.

In the May 25, 1988 telephone conversation Mr. Waite indicated that he is having the solvent wastes analyzed. He also indicated that the mercury concentration specified on the notification forms, 65 ppm, is incorrect. He utilized an average of the analyses rather than merely the 1982 data that he indicates is now applicable.

3.1 Recommendations

CDM FPC recommends that EPA request a copy of the new waste analysis of the solvent that Mr. Waite indicated he was going to have done. It is possible that the 1982 analyses are no longer applicable and the facility is in compliance with the LDR rules. Using the 1982 data the facility does generate California List waste and is not indicating this on its notification form and therefore, is not in compliance with 40 CFR 268.

Co. Name Whitaker Corp.

Inspector Paige Embry Date 4/29/88

California List Waste - Generator Checklist

Waste Generated

1) Does the handler generate the following wastes?

a. Liquid hazardous wastes with cyanides ≥ 1000 mg/l
____Y _✓_N

b. Liquid hazardous wastes with metals or compounds ≥ :

arsenic	500 mg/l	____Y ____N
cadmium	1000 mg/l	____Y _✓_N
chromium VI	500 mg/l	____Y _✓_N
lead	500 mg/l	_✓_Y ____N
mercury	20 mg/l	_✓_Y ____N
nickel	134 mg/l	____Y ____N
selenium	100 mg/l	____Y _✓_N
thallium	130 mg/l	____Y ____N

c. Liquid hazardous wastes having a pH ≤ 2 ?
____Y _✓_N

d. Liquid hazardous wastes containing PCBs ≥
50 ppm? ____Y _✓_N
500 ppm? ____Y _✓_N

e. Liquid hazardous wastes that are primarily water and contain HOCs ≥ 1000 mg/l and ≤ 10,000 mg/l HOCs?
____Y _✓_N

2) a. Paint Filter Liquids Test (PFLT method 9095) performed? ____Y _✓_N

b. Representative chemical and physical analyses ?
_✓_Y ____N

3) Waste solidified using an absorbent? ____Y _✓_N

a. Absorbent used? _____

b. Which waste? _____

_____

_____

4) Is waste restricted based on:

a. Knowledge of wastes ____Y ✓ N
b. Testing ✓ Y ____N

List method Chemical analyses of the drummed solvent waste by the Colton, CA laboratory of Whittaker Corp.

c. List constituent and concentration level which exceeded prohibition levels. Using the 1982 analyses - lead 3750 ppm, mercury 26 ppm

If knowledge, note how this is adequate: _____

Treatment

5) On-site or off-site ~~treatment~~ reclamation? No No treatment

Identify off-site facility _____

6) Notification to ~~treatment~~ reclamation facility with:

(i) EPA waste number? ~~✓~~ Y ✓ N
(ii) Specified treatment standard? ✓ Y ____N
(iii) Manifest number? ✓ Y ____N
(iv) Waste analysis data, if available? ✓ Y ____N

Disposal

7) On-site or off-site disposal? Material is recovered

Identify off-site disposal facility Solvent Recovery Service of N.E

8) Notification and certification to the disposal facility with:

(i)	EPA hazardous waste number?	____Y	____N
(ii)	Manifest number?	____Y	____N
(iii)	Waste Analysis Data, if available?	____Y	____N
(iv)	Specified treatment standard?	____Y	____N
(v)	Certification that waste passed PFLT (non-liquid), or does not exceed specified prohibition levels?	____Y	____N

N/A

Storage

9) Storage greater than 1 year for restricted wastes containing PCBs. ____Y ✓N

10) Storage period for restricted wastes: _____

Variances/Extensions

11) Does facility handle any of the following waste:

a. (i) Waste containing HOC ≥ 1000 mg/kg (non-liquid hazardous waste) _____Y ___✓___N

(ii) Liquid waste containing HOC ≥ 1000 mg/l except wastes in 1(e) _____Y ___✓___N

If yes, answer 11(b) and (c).

b. Is any waste listed in 11(a) disposed of in a landfill or surface impoundment? _____Y _____N

c. In compliance with double liner requirements [section 268.5(h)(2)]: _____Y _____N

In compliance with ground water monitoring requirements; _____Y _____N

12) Other Variances/Extensions/Petitions _____

_____

_____

_____

_____

Inspector: Paige Embry

Date: 4/29/88

RCRA LAND RESTRICTION F-SOLVENT GENERATOR CHECKLIST

I. HANDLER IDENTIFICATION

Providence Chemicals Div. Whittaker Corp — King Phillip Rd.
A. Handler Name — B. Street (or other identifier)

East Providence — RI — 02916
C. City — D. State — E. Zip Code — F. County Name

Produces Vinyl plastisols & 2 component poly urethane elastomers
G. Nature of Business; Identification of Operations

R.I.D 093214641
H. EPA ID #

Matthew Waite
I. Handler Contact (Name and Phone Number)

II. GENERATOR COMPLIANCE

A. F-Solvent Identification

Waste Handled		Specific Wastes
F001	___Y_✓_N	
F002	___Y_✓_N	
F003	___Y_✓_N	

If an F003 wastestream listed solely for ignitability has been mixed with a non-restricted solid or hazardous waste, does the resultant mixture exhibit the ignitability characteristic? ___Y___N

F004	___Y_✓_N	
F005	___Y_✓_N	

See Appendix A for list of F-Solvent wastes. Note concerns below:

_____

_____

_____

B. BDAT Treatability Group - Treatment Standards Identification

268.41 1. The generator correctly determines the appropriate treatability group of the waste (Wastewaters containing solvents, pharmaceutical wastewaters containing spent methylene chloride, all other spent solvent wastes).

_____Y ✓ N

What treatability group is waste?

_____.

_____

C. Waste Analysis

268.7(a) 1. Generator determines whether the waste exceeds treatment standards based on:

a. Knowledge of wastes _____Y____N

b. TCLP _____Y____N

N/A

c. Other (specify) _____

If knowledge, note adequacy:

_____

Date of last TCLP conducted _____

Frequency _____

Results _____

Problems _____

d. Wastes tested using TCLP when a process or wastestream changed.

_____Y____N

268.7(a) (2) 2. F-solvent wastes exceed applicable treatment standards upon generation? _____Y____N_____Some

N/A

Explain _____

_____

268.3 3. Dilution process used_____

D. Management

1. Onsite management
   a. F-solvent wastes managed onsite ____Y✓____N

   b. Restricted F-wastes:

      treated _____ how? _____

      stored _____ how? _____

      disposed _____ how?_____

      where disposed?_____

      _____

Note: TSDF Checklist must be completed if treatment, storage or disposal of restricted wastes was conducted.

2. Offsite Management

268.7(a) (1) a. For restricted F-Solvent wastes, generator provides treatment facility notification including:

Facility supplies notification even though they don't believe they generate LDR waste

   (i) EPA waste number _____Y____N

   (ii) Applicable treatment standard?

   _____Y____N

   (iii) Manifest number _____Y____N

   (iv) Waste analysis data, if available?

   _____Y____N

Identify offsite treatment facilities SRS Wash Solv
Powders blend least time Ashland Chem used during closure

b. Treatment standard variance _____Y____N

268.7(a)(2) c. For F-solvent wastes meeting treatment standards, generator provides the disposal facility notification including:

(i) EPA Hazardous waste number _____Y____N

(ii) Applicable treatment standard _____Y____N

(iii) Manifest number _____Y____N

(iv) Waste analysis data, if available _____Y____N

(v) Certification that waste meets treatment standards _____Y____N

Identify land disposal facilities receiving the BDAT certified wastes _____

_____

d. Is waste subject to:

268.30 * nationwide extension? ____Y__✓__N

268.5 * case-by-case extension? ____Y__✓__N

Expiration date _____

268.6 * no-migration petition? ____Y__✓__N

Date approved _____

E. Storage of F-Solvent Waste

268.50 (a)(1) 1. Storage of wastes for ≥ 90 days (after variance 180/270 days for SQG). _____Y__✓__N

Does facility operate as a TSD? ____Y ✓ N

If yes, TSDF Checklist must be completed.

F. Treatment Using RCRA 264/265 Exempt Units or Processes (i.e., boilers, furnaces, distillation units, wastewater treatment tanks, etc.)

1. Were treatment residuals generated from RCRA 264/265 exempt units or processes?

____Y ✓ N

If yes, list type of treatment unit and processes _____

_____

_____

If the residuals from a RCRA-exempt treatment unit are above the treatment standards, the owner/operator is considered a generator of restricted waste. The inspector should determine whether the generator requirements, particularly waste identification requirements, have been met for the treatment residuals.